



INTERNATIONAL NEWS AND REGULATORY UPDATES

FR O M R I C P E R I
VICE PRESIDENT OF GOVERNMENT & INDUSTRY AFFAIRS FOR AEA

The Aircraft Electronics Association's international membership continues to grow. Currently, the AEA represents avionics businesses in more than 35 countries throughout the world. To better serve the needs of the AEA's international membership, the "International News and Regulatory Updates" section of Avionics News offers a greater focus on international regulatory activity, international industry news, and an international "Frequently Asked Questions" column to help promote standardization. If you have comments about this section, send e-mails to avionicsnews@aea.net.

Australia's ADS-B Proposal Nears Deadline

BY MICHAEL KUS
AEA MEMBERSHIP DIRECTOR
SOUTH PACIFIC REGION

The Australian aviation industry is in the midst of a push toward new requirements for the implementation of automatic dependent surveillance-broadcast out avionics for general aviation — a win-win situation for aircraft owners and shops as well as the government, which has offered to pick up a tab of up to AU\$15,000 per aircraft.

But time is running out. The mandate must be approved this year. If it is not, funding will be redirected toward replacing existing, aging radars and such an opportunity is unlikely to be available again for another 20 years.

Unfortunately, the delay of a decision to implement the Australian Transition to Satellite Technology (ATLAS) now is estimated by Airservices Australia to cost an additional \$33 million for the ongoing maintenance of existing surveillance and navigation stations. The industry will absorb this cost.

ATLAS was developed by industry and government, and it is outlined in a joint consultation paper released

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in August 2007 (available online at www.casa.gov.au/newrules/airspace/jcp/jcp.pdf).

As the paper explains, financial support for a proposed mandate for ADS-B Out avionics would be sourced from funds that otherwise would be used to maintain or replace Australia's ground-based radar network. If ATLAS is scrapped altogether, an additional \$89 million will be required for a non-backup network of ground-based aids. An ADS-B implementation team with broad industry representation has spent the past year working to overcome any complications the proposed mandate might generate.

If mandated by the Australian Civil Aviation Safety Authority, all IFR aircraft and all VFR aircraft presently required to carry a radar transponder

and/or VHF radio would be affected. To qualify for the funding, an aircraft must be Australian-registered (through CASA, RA-Aus, HGFA, ASRA) and have a maximum takeoff weight of 5,700 kg or less.

The current proposal calls for funding caps of AU\$10,000 for VFR and AU\$15,000 for IFR aircraft. Requirements would become effective beginning December 2013, allowing for a five-year installation period.

For AEA members, there is much at stake here. If passed, the mandate would generate a mass amount of work for avionics shops in Australia. Some 11,200 general aviation aircraft would need to be modified over a five-year period.

Are avionics shops up to the challenge of fitting so many aircraft on

schedule? Yes, we are capable of handling the workload. We need to embrace this project with a positive attitude. Many of the aircraft would be a snap to do because all they would require is an upgrade to their GPS and an ADS-B Out capable transponder. If an aircraft already has a 330 transponder, a software upgrade might be all that is needed.

Shops would need to keep plenty of stock on hand and allocate between one and three days per aircraft for necessary upgrades. Subsidies ensure each shop would be paid directly by Airservices Australia in a timely manner; therefore, keeping the extra inventory on hand should not be a financial burden.

CASA would need to devise a reliable plan for scheduling installations or upgrades, perhaps based on call letters, to prevent a last-minute rush by aircraft owners to comply.

Funding of \$10,000 for VFR aircraft and \$15,000 for IFR aircraft should be more than enough to comply with the proposed order. I must emphasize, with these subsidies, the mandate would not subject customers to any additional charges, unless they opted for further avionics upgrades that are not part of the ruling.

The implementation would be revenue neutral to Airservices Australia because it would be gearing funds toward subsidies for aircraft owners that otherwise would be used to replace and service aging radars and nav-aids. The ADS-B alternative would allow for the decommissioning of 11 en route radars from 2012, as well as several non-backup nav-aids from 2014.

However, this decommissioning cannot occur unless aircraft are fitted with ADS-B and Global Navigation Satellite System (GNSS) avionics. The plan will not work if the avionics are equipped only on a voluntary basis; there just would not be enough participants.

The proposal now on the table is a golden opportunity for both aircraft owners and shops. The technology, GPS and GNSS, allows aircraft to spend less time on approaches, take

CONSIDERING ALL THAT IS AT STAKE, GENERAL AVIATION OWNERS, OPERATORS AND SHOPS NEED TO BAND TOGETHER TO SUPPORT AUSTRALIA'S SMOOTH AND TIMELY TRANSITION FROM TRADITIONAL GROUND-BASED NAV-AIDS TO SATELLITE-BASED NAVIGATION SYSTEMS.

more direct routes and use less fuel (this is more cost-effective and results in reduced greenhouse gas emissions), which allows for safer air traffic management.

In addition, ADS-B allows for greater tracking accuracy compared to what is provided by current radar systems. The required ADS-B Out avionics would transmit an aircraft's identification, position, altitude, velocity vector and vertical rate to air traffic control stations. ADS-B transmission rate is twice per second.

Successful trials of ADS-B for sole or primary-means navigation in the United States and Europe, as well as trials in Australia, have proven the validation for performance-based navigation in our increasingly crowded skies.

Qantas has been conducting trials on 737-800 aircraft for GPS-guided required navigation performance approaches, and results from these 35 aircraft are quite impressive. Among the benefits realized during the Brisbane trials are:

- an average reduction of 4 minutes flying time per flight;
 - 295,000 kg of fuel saved;
 - 960,000 kg of CO₂ not emitted;
- and
- reduced noise from reduced flying time.

The Upper Airspace Project already is in place in Australia. This involves mostly commercial aircraft, but any-

one who uses this airspace is encouraged to comply with new ADS-B standards.

At the ADS-B Implementation Team meeting in June, chairman Greg

Dunstone of Airservices Australia announced ADS-B coverage has doubled and, for the first time, reached the boundary of Australia's flight information region.

Australia does not yet suffer the air traffic congestion many other countries now face; however, ADS-B is the logical answer to overcoming present air traffic problems in our remote regions, as well as preparing the industry for the increased air traffic we're likely to experience within the next 20 years.

If ATLAS is not ratified, there will be no subsidies for future avionics equipment until at least 2028. Resources will, instead, be directed to the purchase of 11 en route SSR radars and other additional nav-aids to replace the existing non-backup network and support traffic growth.

The cost for a new ground-based, non-backup network is estimated at AU\$89 million, which industry will pay for through fees and other charges — this, combined with the cost of the new SSR radars, far exceeds what is required for ADS-B surveillance.

Considering all that is at stake, general aviation owners, operators and shops need to band together to support Australia's smooth and timely transition from traditional ground-based nav-aids to satellite-based navigation systems.

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UNITED STATES **News & Regulatory Updates**

FAA Reopens ADS-B Comment Period

On Oct. 5, 2007, the Federal Aviation Administration published a Notice of Proposed Rulemaking (NPRM) proposing performance requirements for certain avionics equipment on aircraft operating in specified classes of airspace within the United States National Airspace System.

The comment period originally closed March 3, 2008.

The FAA reopened the comment period to give the public an opportunity to comment on recommendations received from an Aviation Rulemaking Committee established by the Administrator on July 15, 2007. Comments must be received before Nov. 3, 2008.

The FAA chartered the Automatic Dependent Surveillance-Broadcast Aviation Rulemaking Committee (ARC) on July 15, 2007, to provide a forum for the U.S. aviation community to discuss and review an NPRM for ADS-B; formulate recommendations on presenting and structuring an ADS-B mandate; and consider additional actions that could be necessary to implement those recommendations.

After the NPRM was published, the ARC was tasked with making specific recommendations to the FAA concerning the proposed rule based on the comments submitted to the docket.

The ARC reviewed 1,423 comments submitted to the docket by 165 entities, categorized the comments for further analysis, and studied the

issues underlying 1,101 of the 1,423 comments on the docket.

The ARC is making 36 summary recommendations regarding the ADS-B link strategy, program, business case, required equipment, security and privacy. The ARC divided the recommendations into two broad categories: recommendations to be resolved before any rule is adopted and recommendations for future action.

The AEA has reviewed the ARC report and submitted comments to the FAA. The AEA encourages its membership to review the ADS-B report and submit comments to the FAA as well.

Copy the AEA's government and industry affairs office (ricp@aea.net) on any submissions to the FAA.

AC 23-17C Open for Public Comment

Advisory Circular 23-17, "Systems and Equipment Guide for Certification of Part 23 Airplanes and Airships," sets forth an acceptable means of showing compliance with Title 14 Code of Federal Regulations, Part 23, for the certification of systems and equipment in normal, utility, acrobatic and commuter category airplanes and airships.

The policy in this AC is considered applicable for airship projects; however, the certifying office should only use specific applicability and requirements if they are determined to be reasonable, applicable and relevant to the airship project. This AC applies to Subpart D from §23.671 and Subpart F.

AC 23-17C is open for public comment until Nov. 7, 2008.

FAA Requests Digital Flight Data Recorder Change

The FAA published a Notice of Intent to request approval from the Office of Management and Budget of a new information collection activity: Revisions to digital flight data recorder

regulations for Boeing 737 airplanes and all Part 125 airplanes.

The FAA would amend the regulations governing flight data recorders to increase the number of digital flight data recorder parameters for certain Boeing airplanes. This change is based on safety recommendations from the National Transportation Safety Board following its investigations of two accidents and several incidents involving 737s.

The FAA invites public comments about the intention to request the Office of Management and Budget approve a new information collection.

Comments must be submitted by Nov. 18, 2008. For more information, contact Carla Mauney at 202-267-9895 or by e-mail at Carla.Mauneyfaa.gov.

News Guidance Published on Designee Training

The FAA published Change 3 to the Designee Management Handbook. This change incorporates new time requirements for designee recurrent training and provides new guidance on recurrent training class for manufacturing designees.

FAA order 8100.8C establishes the FAA procedures to be used by the Aircraft Certification Service and Flight Standards Service for managing the FAA's representatives of the Administrator designee program.

In addition, this order provides geographic restriction procedures and authorized designee functions. These procedures are designed to ensure they are applied in an unbiased manner to all qualified private persons.

Specific designee procedures covered in this order include the FAA's roles and responsibilities; initial selection and appointment of designees; orientation, including designee authority and responsibilities; designee training requirements; termination and appeals; FAA oversight; and renewal.

FREQUENTLY ASKED QUESTIONS

United States

Ratings to Perform FAR 91.411/91.413 Maintenance

The following information is from the Federal Aviation Regulations.

QUESTION:

We have a limited instrument rating for the FAR 91.411/91.413 testing and certification. Our FAA inspector (PAI) recently had us amend our limited instrument rating to include Mode S testing. Our position was: The Radio Class 3 already covered Mode S. But our PAI insisted it needed to be added to the limited rating. Is this required?

ANSWER:

No. Your PAI failed to read the Federal Aviation Regulations and is regulating by opinion. His action is not unprecedented with the automated operations specifications issued by FAA headquarters. However, you should have this corrected before you sign your Ops Specs.

14 CFR, Section 91.413(c)(1), "ATC Transponder Tests and Inspections," clearly states the tests and inspections specified in this section must be conducted by a certificated repair station properly equipped to perform those functions and holding a radio rating, a limited radio rating appropriate to the make and model transponder to be tested, or a limited rating appropriate to the test to be performed.

Because you already hold a Radio Class III rating, you meet the criterion of 14 CFR, Section 91.413(c)(1)(i).

CANADA

News & Regulatory Updates

AEA Responds to Transport Canada's ELT Rulemaking

As previously reported in *Avionics News*, as a result of the upcoming withdrawal of Cospas/Sarsat monitoring of 121.5 MHz ELT transmissions effective Feb. 1, 2009, Transport Canada Civil Aviation is proposing the mandatory installation of 406 MHz ELTs or an alternate means of compliance onto Canadian-registered aircraft and foreign-registered aircraft operating in Canadian airspace.

Currently, the proposed regulations are worded as such that all Canadian aircraft operating internationally and domestically would be required to carry a 406 MHz emergency locator transmitter (ELT) or an alternate emergency locator device (ELD) system, except for those specifically excluded, such as ultra-lights, training operations within 25 nm of an airport, flight tests and parachute operations.

These exclusions are the same as currently provided under the existing Canadian Aviation Regulations.

In addition, internationally registered aircraft operating in Canadian airspace would be subject to the same requirements.

Apparently, phased-in compliance is proposed, with foreign aircraft and new aircraft being given two years to comply. The ELD system proposed in the NPAs refers to a system that is capable of providing immediate notification of an aircraft occurrence directly to a rescue coordination center or via a third party. This could include a third-party monitoring system; continuous radar coverage under an IFR flight plan; an ADS-B system, or a Type A flight dispatch system.

In anticipation of the requirement for a large quantity of replacement ELT in-

stallations, TCCA has issued an exemption to CAR 571.04 and 571, Schedule II, to exclude TSO-C126 406 MHz ELTs from the avionics specialized maintenance rules for a period of nine months, ending Sept. 30, 2009.

Therefore, AMEs with an M1 or M2 rating or a person holding an aircraft certification authority may install these ELTs under certain conditions listed in the exemption.

The AEA has made the following comments to Transport Canada on the proposed regulations: The regulations also should state that foreign-registered aircraft entering Canada solely for the purposes of maintenance or modification should not be required to be equipped with an ELT in accordance with this regulation.

The exemption from the specialized maintenance rules requires the installer to perform a successful post-installation function test to ensure the 406 MHz ELT is functioning as depicted in its operational instructions. The AEA believes the exemption should state that the post-installation function test must be performed in accordance with the ELT manufacturer's instructions, and CAR STD 571, Appendix G (if amended).

The existing CAR 571, Schedule II, permanently exempts installation of ELT systems conforming to TSO C91/C91a from the avionics specialized maintenance rules. The AEA's position is: Installation of ELT systems conforming to TSO-C126 also should be permanently exempted from the avionics specialized maintenance rules, provided conditions No. 1 through No. 5 identified in the subject exemption are met.

The proposed CAR amendment does not include an amendment to STD 571, Appendix G, "ELT Inspection and Testing."

STD 571, Appendix G, provides inspection and test requirements for ELT systems conforming to TSO-C91/C91a.

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In conjunction with the proposed rule for installation of ELT systems conforming to TSO-C126, there is a need to either:

A) Revise 571, Appendix G, to identify that the existing test requirements are only for ELT systems conforming to TSO-C91/C91a, and add specific test requirements for ELT systems conforming to TSO-C126.

B) Amend Appendix G to state that it is only applicable to ELT systems conforming to TSO-C91/C91a, and state that for inspection and testing of ELT systems conforming to TSO-C126, the ELT manufacturers instructions are to be followed for inspection, performance and operational tests.

The AEA recommends TCCA adopt Option B (above).

EUROPE News & Regulatory Updates

EASA Revises Certification Standard for Large Aircraft

On Sept. 5, the European Aviation Safety Agency issued a revised certification standard for large aircraft, CS-25, Amendment 5. The new CS-25 contains the consolidated outcome to NPA 2007-01 in regards to the "Aeroplane Electrical Wiring Interconnection System (EWIS)" requirements.

The certification standard will be applicable to new aircraft types for which the application for type certification is filed after the date of the CS-25 amendment and for large aeroplane with a type certificate after Jan. 1, 1958, with a maximum type-certificated passenger capacity of 30 or more, or a maximum payload capacity of 3402kg (7,500 pounds) or more.

This new amendment will require

type certificate holders of new and certain existing large aeroplane types applicable to the new requirement to develop new instructions for continued airworthiness in accordance with the newly created CS-25, Subpart H, and the amended Appendix H. This EWIS requirement also applies to all new applications for major changes to a type certificate and new applications for supplemental type certificates made after the date of the CS-25 amendment.

A mid-air explosion in 1996, involving a 747 airplane, brought safety concerns about wiring systems to the forefront of public and governmental attention. Ignition of flammable vapors in the fuel tank was the probable cause of this fatal accident, and the most likely source was determined to be a wiring failure causing a spark to enter the fuel tank. All 230 people onboard were killed.

Two years later, an MD-11 airplane crashed into the Atlantic Ocean, killing all 229 people onboard. Although an exact cause could not be determined, a region of re-solidified copper on a wire of the in-flight entertainment system cable indicated wire arcing had occurred in the area where the fire most likely originated.

Investigations of those accidents and subsequent examinations of other airplanes showed that deteriorated wiring, corrosion, improper wire installation and repairs, and contamination of wire bundles with metal shavings, dust and fluids, which would provide fuel for fire, were common conditions in representative examples of the "aging fleet of transport aeroplanes."

The FAA has issued a similar requirement known as FAR Part 26.

EASA Issues New Acceptable Means of Compliance

EASA issued Executive Director Decision ED 2008/007/R to amend the existing acceptable means of compli-

ance, AMC20, with three new AMCs. The new material contains AMC20-21, 20-22 and 20-23.

The three AMCs address various areas of the main subject, EWIS, which has been addressed in the latest CS-25 amendment.

- AMC20-21 is related to the program to enhance EWIS maintenance. It provides acceptable means of compliance for developing enhanced EWIS maintenance for operators, holders of TCs/STCs, and maintenance organizations. It promotes a housekeeping philosophy of "protect and clean as you go" when performing maintenance, repair or alterations on or around aircraft EWIS.

- AMC20-22 provides the acceptable means of compliance for developing an EWIS training program. Following this AMC results in a training program to improve the awareness and skill level of the aviation personnel in EWIS production, modification, maintenance, inspection, alterations and repair.

- AMC20-23 finally provides the acceptable means of compliance for developing an electrical standard wiring practices document for operators, holders of TCs/STCs and maintenance organizations. It promotes a common format for documents containing standard practices for electrical wiring and provides a summary of the minimum content expected to be contained within the document.

Comment Period for Flight-Test Amendment Ends This Month

NPA 2008-20 contains a proposal for the amendment of EC1702/2003, Part 21, to define different categories of flight tests; define the competence and experience of flight test pilots and flight test engineers; and establish requirements for the flight test training organization.

The proposal further defines the requirement for design organizations and production organizations to have a

flight-test operation manual if flight-testing is part of their activities and the privileges for a design organization in relation with permit-to-fly.

The comment period for this proposal ends Nov. 28, 2008.

Comment Response Issued for Design Organizations

On Sept. 15, a comment response document was issued detailing the response to NPA 16-2006, which proposes further regulatory clarification on the certification efforts defined in Part 21, Subpart J: Design Organization Approval.

The CRD, which seems to indicate a disagreement within the industry that widely accepted the NPA contents and the NAAs and experts involved in EASA certification activities against the CRD, lists on nearly 100 pages the response of the stakeholders and should help clarify any misunderstandings in the response interpretation.

The original NPA contained proposed regulation amendments in regards to:

- the flight-manual supplement approval;
- development and preparation of a certification program;
- agency involvement in an STC program; and
- approval of Subpart J: Design Organizations.

SOUTH PACIFIC News & Regulatory Updates

CASA Offering LAME Scholarships in Australia

The Civil Aviation Safety Agency is offering scholarships to students seeking careers as licensed aircraft maintenance engineers (LAMEs).

The scholarship, which is for an indi-

vidual, will provide support for two years. The scholarship amount is \$1,000 for each of the first two years of the apprenticeship. One scholarship will be available each year for each State and Territory.

The scholarship payment is intended to provide support for payment for tools of professional quality, mandatory text/reference books required for the theoretical component of training, or travel and accommodations to attend full-time theory training.

The availability of continued support will be subject to satisfactory progress in the training, both practical and theoretical. This is to be attested to, at the end of each semester, by:

- Academic results
- Employer progress assessment
- Training organization assessment

Candidates will be required to provide the following:

- Evidence of an employment commitment signed by the proprietor of an organization holding a CASA certificate of approval for maintenance of Australian aircraft.
- Character reference from recent employer or school principal.
- Most recent high school examination results, which must include passes in physics and mathematics, or evidence of work experience in mechanical or electrical trade or technical enterprises.
- A statement, written by the applicant, outlining why the applicant is undertaking training as a LAME.

Assessment of applications will be carried out by an expert panel drawn from CASA and professional associations. To download an application form, visit http://casa.gov.au/ame/download/LAME_app.pdf. The applications deadline is Nov. 30, 2008.

Applications should be sent to: David Pattie, Manager Safety Promotion, CASA Engineering Scholarship, GPO Box 2005, Canberra ACT 2601 Australia.

For more information, send e-mails to david.pattie@casa.gov.au.

FREQUENTLY ASKED QUESTIONS

International: Australia

Australian LAMEs By Age Group

The following information is from Civil Aviation Safety Agency guidance material.

QUESTION:

CASA recently published Civil Aviation Order 100.66, which offers the option for Australian aircraft maintenance personnel to obtain authority categories and type ratings based on the European Aviation Safety Agency categories A, B1 and B2. What is the current status of the LAME (licensed aircraft maintenance engineer) population in Australia?

ANSWER:

While there has been significant discussion regarding the status of the LAME population, the actual number of engineers and their age distribution has not changed significantly in recent years. Although, in looking back 10 or more years, there is a troubling decrease in the younger apprentices coming into the industry.

Note: This information is not meant to serve as legal advice. If you have particular legal questions, they should be directed to an attorney. The AEA disclaims any warranty for the accuracy of the information provided. □